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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| 10/525,367 | 02/23/2005 | Yuichi Shibata | 840.44800X00 | 5113 |
| 20457 7590 04/17/2007 ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-3873 | | | EXAMINER SCHNEIDER, CRAIG M | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3753 | |
| SHORTENED STATUTORY PERIOD OF RESPONSE | | MAIL DATE | DELIVERY MODE | |
| 3 MONTHS | | 04/17/2007 | PAPER | |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/525,367 | SHIBATA ET AL. | |
| | Examiner | Art Unit | |
| | Craig M. Schneider | 3753 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,8 and 12-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,8 and 12-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/23/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. A substitute specification including the claims is required pursuant to 37 CFR 1.125(a) because the translation of the parent application utilizes various terms in an incorrect fashion, two examples are "putted" and "supper" in the specification.

A substitute specification must not contain new matter. The substitute specification must be submitted with markings showing all the changes relative to the immediate prior version of the specification of record. The text of any added subject matter must be shown by underlining the added text. The text of any deleted matter must be shown by strike-through except that double brackets placed before and after the deleted characters may be used to show deletion of five or fewer consecutive characters. The text of any deleted subject matter must be shown by being placed within double brackets if strike-through cannot be easily perceived. An accompanying clean version (without markings) and a statement that the substitute specification contains no new matter must also be supplied. Numbering the paragraphs of the specification of record is not considered a change that must be shown.

2. A substitute specification in proper idiomatic English and in compliance with 37 CFR 1.52(a) and (b) is required. The substitute specification filed must be accompanied by a statement that it contains no new matter.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 8, and 14-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Kamholz et al. (WO 01/44667).

Kamholz et al. disclose a microscopic fluid controlling method comprising the steps of moving a first microscopic fluid (56) by changing an electric field or a magnetic field and by positioning the first microscopic fluid in a microscopic flow passage, inhaling a second microscopic fluid (45) in the microscopic fluid in the microscopic flow passage by succeeding the first microscopic fluid, and controlling the second microscopic fluid existed in the microscopic flow passage in respective of a move of the first microscopic fluid (page 8, line 24 to page 11, line 26).

Regarding claim 14, the fluid will separate over time when held in a continuous position.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

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under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 12, 16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamholz et al. in view of Taylor et al. (WO 00/63704).

Kamholz et al. disclose all the features of the claimed invention except that the microscopic fluid controlling method further comprises the step of dividing into plural portions the second microscopic fluid by a third microscopic fluid. Taylor et al. disclose the method of breaking up a microscopic fluid with another microscopic fluid as seen in Figures 2A-2F (page 9, line 21-27).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize another microscopic fluid to split the microscopic fluid as taught by Taylor et al. onto the fluid handling device of Kamholz et al., in order to produce discrete sample plugs.

8. Claims 13 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamholz et al. in view of Handique et al. (WO 99/17093).

Kamholz et al. disclose all the features of the claimed invention except that the microscopic fluid controlling method further comprises the step of dividing into plural portions the second microscopic fluid by heating. Handique et al. disclose the use of heat to separate the microscopic heat into plural portions as seen in Figure 4A and 4B (page 23, line 6 to page 24, line 11).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the heater of Handique et al. onto the fluid handling system of Kamholz et al., in order to split off a drop.

9. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kamholz et al. in view of Martin (EP 0187699).

Kamholz discloses all the features of the claimed invention except that the microscopic fluid controlling apparatus further comprises a rotating means for positioning the first microscopic fluid existing in the microscopic flow passage and moving the first microscopic fluid in the microscopic flow passage, and second microscopic fluid dividing means for dividing into plural portions the second microscopic fluid and a second microscopic fluid blending and separating means for blending and separating the second microscopic fluid. Martin discloses using a reaction surface that rotates and blends the fluids that are injected and inherently can separate the products of a fluid that has different elements with respective specific gravities (page 5, line 9 to page 6, line 23).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the rotating reaction surface of Martin with the fluid handling system of Kamholz et al., in order to blend the fluids.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kamholz et al. (6,408,884 and 6,415,821) disclose the use of magnets to move a first fluid that then in turns moves a second fluid. Taylor et al.

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(6,375,817) disclose the use of another fluid to separate a first fluid. Martin (4,961,915) discloses a rotating machine to blend fluids.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig M. Schneider whose telephone number is (571) 272-3607. The examiner can normally be reached on M-F 8:30 -5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Keasel can be reached on (571) 272-4929. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CMS *CMS*
April 15, 2007



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TECHNOLOGY CENTER 3700